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JUL 28 2006

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Application No.: 10/759898
Docket No.: CL2035USNAAmendments to Claims

Claim 1 (Withdrawn). A method of increasing the yield of an aromatic carboxylic acid from a host cell producing said aromatic carboxylic acid comprising:

- a) providing a host cell which:
 - i) produces an aromatic carboxylic acid; and
 - ii) comprises at least one *yhcQ* gene and at least one *yhcP* gene; and
- b) up-regulating the expression of the at least one *yhcQ* gene and the at least one *yhcP* gene whereby the yield of aromatic carboxylic acid is increased.

Claim 2 (Currently Amended). A method for increasing the resistance of a host cell to aromatic carboxylic acids comprising:

- a) providing a host cell which comprises at least one *E. coli yhcQ* gene and at least one *E. coli yhcP* gene; and
- b) up-regulating the expression of the at least one *E. coli yhcQ* gene and the at least one *E. coli yhcP* gene whereby the host cell resistance to aromatic carboxylic acids is increased.

Claim 3 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the at least one *yhcQ* gene and the at least one *yhcP* gene are endogenous to said host cell.

Claim 4 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the at least one *yhcQ* gene and the at least one *yhcP* gene are heterologous to said host cell.

Claim 5 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the host cell is selected from the group consisting of bacteria, yeast, fungi and plants.

Claim 6 (Original). A method according to Claim 5 wherein the host cell is an enteric bacteria.

Claim 7 (Original). A method according to claim 5 wherein the host cell is selected from the group of genera consisting of *Escherichia*, *Salmonella*, *Bacillus*, *Acinetobacter*, *Streptomyces*, *Methylobacter*, *Rhodococcus*, *Corynebacterium*, *Pseudomonas*, *Rhodobacter*, and *Synechocystis*.

Claim 8 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the aromatic carboxylic acid is selected from the group consisting of para-

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hydroxybenzoic acid, para-hydroxycinnamic acid, cinnamic acid, salicylic acid, benzoic acid, and 1-napthoic acid.

Claim 9 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the at least one *yhcQ* gene has the nucleic acid sequence as set forth in SEQ IDNO:2 and the at least one *yhcP* gene has the nucleic acid sequence as set forth in SEQ IDNO:1. ~~comprise at least one suitable promoter operably linked to at least one isolated nucleic acid molecule selected from the group consisting of SEQ ID NO:1-4.~~

Claim 10 (Canceled).

Claim 11 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the at least one *yhcQ* gene and the at least one *yhcP* gene are expressed on a multicopy plasmid.

Claim 12 (Currently Amended). A method according to ~~either Claim 1 or Claim 2~~ wherein the at least one *yhcQ* gene and the at least one *yhcP* gene are under the control of a strong promoter selected from the group consisting of *lac*, *trp*, *lP_L*, *lP_R*, *T7*, *tac*, and *trc*.

Claim 13 Canceled).

Claim 14 (Withdrawn). A chimeric gene encoding an efflux protein comprising:
a) an isolated nucleic acid molecule having a nucleic acid sequence selected from the group consisting of:

- i) an isolated nucleic acid molecule selected from the group consisting of SEQ ID NO:1-4; and
- ii) an isolated nucleic acid molecule, wherein said isolated nucleic acid molecule hybridizes with (i) under the following conditions: 0.1×SSC, 0.1% SDS at 65°C and washed with 2×SSC, 0.1% SDS followed by a second wash in 0.2×SSC, 0.1% SDS; and

b) a promoter;

wherein the promoter is heterologous to the isolated nucleic acid molecule.